

# GOVERNOR'S WORKFORCE INVESTMENT BOARD



## FY 2002 ACTION PLAN

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## EXECUTIVE SUMMARY

The *FY 2002 Action Plan* represents a significant commitment on the part of the Governor's Workforce Investment Board to "moving the needle" in addressing critical skills shortages so that job seekers have the skills they need to succeed in the knowledge economy and employers have access to the skilled workforce they need to grow and prosper.

For FY 2002, this means several things. First, the Board will develop a flexible approach – including scholarships and tax credits – that can address all critical skills shortages. In order to be proactive in addressing critical skills shortages, the Board will continue efforts begun this past year to develop a forecasting model that produces quarterly predictions of critical skills shortages.

The Board also acknowledges the fundamental role that education plays in the development of Maryland's workforce. Therefore, the Board will continue to advocate for full funding of the Maryland Applied Information Technology Initiative (MAITI) including the passage and implementation of MAITI for the state's community colleges (MAITI-MACC). MAITI-MACC will allow for community colleges to increase infrastructure (faculty, equipment, etc.) so vital to the delivery of successful technology training programs.

In addition to advocating for MAITI and MAITI-MACC, the Board will work with the Maryland State Department of Education to develop a "workforce legislative agenda in education" that addresses not only the critical shortage in qualified teachers, but also advocates for successful programs like school-to-career ("Career Connections") and adult literacy.

The Board's *FY 2002 Action Plan* does not stop at addressing critical skills shortages and promoting the role of education. The Board is also committed to "leaving no one behind," improving workforce information, and developing a communications and marketing strategy.

Too many Marylanders are still being left behind. Of the 700,000 adults lacking a high school diploma or its equivalent, only about 38,000 are served by available federal and state adult education resources. Given those figures, increased emphasis will be placed on at-risk youth and ex-offenders returning to work who lack a high school diploma or its equivalent. The Board will seek efforts to help transition these populations, along with others such as former or current welfare recipients, into careers in critical skills shortage areas. The Board is committed to helping turn the digital divide into the digital dividend.

Improving workforce information is another area that the Board has set as a very high priority for the coming year. Several efforts are underway that will serve to provide everyone more real-time, local information. Included in these efforts are

an environmental scan of available information, a customer satisfaction survey for workforce information products, and the development of a workforce information fact sheet that will be provided to the Board prior to every quarterly meeting.

Finally, the Board will seek to improve its efforts to communicate to its workforce system partners, as well as on behalf of its partners. The first step in this very important process has already begun – the Board has contracted with a consultant to interview state and local partners to identify existing workforce related-marketing efforts and prepare a report as to how limited marketing dollars might be better leveraged so that all Maryland employers and citizens become more aware of the state’s workforce assets – its programs, people, and quality of life.

These high-priority items were some of the key issues presented to the Governor and Lt. Governor when a delegation from the Board met with them on June 19, 2001. The delegation will seek a meeting with the Governor and Lt. Governor a second time when its 2002 legislative and FY 2003 budgetary agenda have been more fully developed.

*“It is crucial that we continue to upgrade the skills of our workers in order to provide a conducive environment for economic growth and prosperity in the State. It is imperative that we first craft measures to help those who live in Maryland to be able to find high-skilled, family-supporting jobs in the State.”*

*Parris N. Glendening  
Governor, State of Maryland  
Letter to Chairman Mills (July 11, 2001)*

# INTRODUCTION

The Governor's Workforce Investment Board undergoes an annual strategic planning process that reviews the successes and remaining challenges from the prior year and identifies action items for the coming twelve months of the fiscal year.

In its *FY 2001 Action Plan* the Board identified *five critical skill shortage areas to focus its efforts upon* – teaching, technology, tourism, health care (particularly nursing), and construction. Important additional efforts include “*leaving no one behind*,” *improving workforce information*, and *communications and marketing*.

While those same four major themes are continued in the *FY 2002 Action Plan*, the Board has chosen to focus its priorities on addressing critical skills shortages, and views the other efforts – leaving no one behind, improving workforce information, and communications and marketing – as tools or tenets that help to address critical skills shortages.

For FY 2002, the Board will focus its efforts on the three critical skill shortage areas of teaching, health care, and technology. Tourism and construction will be addressed through both new and existing initiatives such as the Chesapeake Workforce Alliance. This Alliance is a partnership between the Board and four local workforce investment areas to examine critical skills shortages in technology, health care, tourism, and construction.

## WORKFORCE CHALLENGES

### Addressing Critical Skills Shortages

Filling critical skills shortages is a key to the health and vitality of Maryland's economy. In its FY 2001 Action Plan the Board identified five critical skills shortages to focus its efforts upon. In a research paper prepared for the strategic planning session entitled *Economic Consequences of Critical Skills Shortages* RESI Research and Consulting of Towson University estimated that by filling current job openings in teaching, information technology, and nursing, the state would realize a total economic impact (direct, indirect, and induced) of:

Employment	67,030 jobs
Tax Receipts	\$440.3 million
Personal Income	\$2.9 billion
Gross State Product	\$9.1 billion

These data were based on a modeling technique assuming **1,629 nursing vacancies** (*Maryland Hospital Association's 2000 Personnel Survey*), a shortfall of **2,160 certified teachers needed for 2000-'02 school years** (*Maryland State Department of Education's Maryland Teaching Staff Report 2000 – 2002*), and **25,000 IT vacancies** at the height of the worker shortage (RESI Estimate, 2000). A complete copy of the RESI paper is available in the Appendix.

### *Teaching and Education*

According to the Maryland State Department of Education's *Maryland Teaching Staff Report 2000 – 2002*, 8,710 certified teachers were needed across the state for the 2000 – 2001 school year. RESI estimates that the total employment impact of 2,160 unfilled teaching vacancies is 3,272 jobs (including direct, indirect, and induced costs). RESI estimates that by filling current vacancies the state would realize an economic impact of \$126.1 million in personal income, \$310.4 million in annual Gross State Product output, and an additional \$12.2 million in tax receipts.

However, the impact of critical skills shortages in teaching and education extend far beyond mere numbers. Teachers are the backbone of the entire workforce system, and as such the shortage of quality teachers undermines the entire system. Since the pipeline of future workers is the long-term solution to current and emerging critical skills shortages, we must ensure that quality teachers are in place all along that pipeline.

### *Nursing and Health Care*

According to the Maryland Hospital Association's 2000 Personnel Survey, total nursing vacancies within the state's hospitals were estimated at 1,629. RESI estimates that the total employment impact of unfilled nursing vacancies is 2,258. RESI estimates that by filling current vacancies the state would realize a total personal income gain of \$85.6 million; \$185.4 million gain in annual Gross State Products; and an additional \$12.2 million in tax receipts.

Again, numbers tell only part of the story. Our society simply cannot enjoy the same quality of life we have grown accustomed to without a qualified health care work force. The formation of the Commission on the Crisis in Nursing is evidence of the importance our state leaders place on having qualified nurses in place to address the health care needs of our citizenry. While the numeric data reference only the nursing shortage, other occupational areas such as lab technicians, nursing assistants, home health-care aids and pharmacists, which are also in critically short supply, are also included within the Board's focus on the health care sector.

## Technology

Data regarding technology shortages vary widely and are often anecdotal in nature. In 1998, RESI estimated that the high-tech workforce shortage (comprised largely of software developers / programmers and system integrators) was 12,000 at mid-year. By mid-year 1999, this estimate had risen to 18,000 and at its peak RESI estimates that the technology workforce shortage in Maryland approached 25,000. This figure is used in RESI's analysis supplied to the Board.

RESI estimates that the total employment impact of unfilled information technology vacancies is 61,500 jobs. RESI estimates that by filling current vacancies the state would realize benefits of \$2.7 billion in total personal income; an impact of \$8.6 billion in annual Gross State Product output; and an increase of \$419 million in taxes.

Again, numbers tell only part of the story. Despite recent media accounts of the dot.com failures, the demand for technology skills is still increasing at exponential rates. According to the Information Technology Association of America, *non-information technology* ("IT") companies remain the largest employer of IT workers with over 91% of the total IT workforce, over 71% of estimated new positions in 2001, and over 71% of anticipated shortfall of skilled IT workers in 2001.<sup>1</sup>

## Leaving No One Behind

The Board is committed to leaving no one behind, including traditionally underserved populations such as low-income workers, persons with disabilities, minorities, women, ex-offenders, at-risk youth, older workers, and numerous others. For its *FY 2002 Action Plan* the Board seeks to develop synergies between programs and initiatives that serve to leave no one behind, and the development of solid careers in sectors experiencing critical skills shortages. Consider the following:

- ✓ Quite simply, too many are still being left behind, and Maryland has not yet turned the digital divide into the digital dividend. As referenced earlier, only 38,000 of 700,000 adults without a high school diploma or equivalent are receiving services under current federal (\$ 7 million) and state (\$1.3 million) adult education funding.
- ✓ Too many at-risk youths are not engaged in the workforce. The Center for Labor Market Studies at Northeastern University estimates that in Maryland there are 72,492 youth aged 16-24 who are not in school and not working.

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<sup>1</sup> *When Can You Start: Building Better Information Technology Skills and Careers*, Information Technology Association of America, April 2001.

With a total out-of-school youth population of over 550,000 this equates to an unemployment level of over 13%, more than three times the state's unemployment rate (approximately 4%). The situation is made more critical by the unequal distribution of unemployment among the racial groups that comprise this cohort – Hispanics and African-American youth are much more likely to be unemployed. While one out of every eleven white out-of-school youth in MD is unemployed, nearly one out of every five non-white out-of-school youth is unemployed.

- ✓ Of the 15,639 state inmates released to the community in FY 1999, only 1,514 completed employment readiness workshops and only 1,000 inmates had completed prison-to-work courses prior to their release. Research indicates that each year of incarceration costs state taxpayers more than \$30,000 per inmate.<sup>2</sup>
- ✓ National data indicate that the percentage of women age 55 and older who are in the workforce increased from 23% in 1970 to 44% in 1995.<sup>3</sup>

### **Improving Workforce Information**

Nearly every policy deliberation taken by the Board requires quality information at the state and local workforce investment area level. For example, the Board needs information to inform its annual strategic planning session as well as to measure the success of the Board in meeting its annual Action Plan. The Board also needs specific information necessary to implement the *FY 2002 Action Plan*.

In addition, the Board also needs information products that continually address the Board's traditional workforce information questions such as: characteristics of existing occupations; characteristics of the existing and available workforce; training availability for various in-demand skills; performance of training providers, and many others too numerous to mention.

Furthermore, local workforce investment areas have indicated the need for more efficient, localized workforce information, and the National Governor's Association Board of Workforce Chairs has also stated that the availability – or lack thereof - of local workforce information is an inhibitor to achieving many goals and objectives of the federal workforce investment system.

### **Communications and Marketing**

Both businesses and individuals need better access to clear information about Maryland's workforce assets – its people, its quality of life, and the programs that

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<sup>2</sup> *Making a Difference: Report of the Task Force on Dropout Prevention, Intervention, and Recovery*, Maryland State Department of Education, 1998.

<sup>3</sup> *America's Changing Workforce: Statistics in Brief*, 1998, AARP.



help individuals and employers upgrade their skills and the skills of their workforce.

The Board's *2001 Annual Report* represented one small step in the effort to highlight the ways that employers can find skilled workers and individuals can get the skills needed for success in the knowledge economy. The Annual Report focused not only on the efforts of the Board, but also highlighted successful programs operated by many of its partners. The 2001 Annual Report can be viewed or downloaded at [www.gwib.state.md.us](http://www.gwib.state.md.us).

## FY 2002 ACTION ITEMS: ADDRESSING CRITICAL SKILLS SHORTAGES

### New for FY 2002

- ✓ At the direct request of the Governor and Lt. Governor, the Board will collect data and begin developing outcome-based analysis of various workforce programs for the Governor's review, as well as "forwarding recommendations to tailor these programs to most effectively and efficiently ensure that our current and future employment base is ready for the knowledge economy."
- ✓ The Board will convene a small workgroup (B.Struever, M.A. Cricchio, M.Smith) that will work in conjunction with the Legislative Committee to develop recommendations for a **flexible approach to address critical skills shortages** and present those recommendations to the agency secretaries for their review and the Executive Committee for its approval. Combined with the Board's quarterly forecasts of critical skills shortages (see "continued from FY 2001," page 12, first bullet) this flexible approach will be developed across current and future critical skills shortages in order to: (1) improve educational capacity; (2) market career and training opportunities; and (3) consolidate and ease the understanding of and ability to access appropriate tuition assistance (including scholarships) or tax credits and other incentives. Furthermore, the Board's Legislative Committee will offer its assistance to efforts underway by the Maryland Higher Education Commission and the Department of Business and Economic Development to **review scholarship programs, tax credits, and other existing incentives.**
- ✓ Board staff will implement the \$150,000 **Chesapeake Workforce Alliance** Grant issued in late May 2001 by the U.S. Department of Labor. This Board-led **employer outreach campaign** is a strategic partnership with four local workforce investment areas that will **identify chronic vacancies and associated skill sets**, and **build momentum for industry consortia** for the critical skills shortages identified by the Board. The four local area partners in the grant are **Susquehanna (Harford and Cecil Counties), the Upper Shore and Lower Shore, and Southern Maryland** (Calvert, Charles, and St. Mary's).
- ✓ The Board President will meet with the Lt. Governor and the leadership of the Maryland **Association of Community Colleges** to discuss draft recommendations regarding programs that **address the Board's five critical skills shortage areas.**
- ✓ The Board will **request that Local Workforce Investment Areas** (Boards and Directors) **assist with the identification of training needs** through an assessment of existing services and funding opportunities for training in

healthcare. Upon successful completion, the Board will consider expanding the project to include other critical skill shortage areas.

- ✓ The Board will work with the Maryland State Department of Education (MSDE) to **develop a Workforce Legislative Agenda in Education**. This will be done through the development of a positioning statement that “tells the story” of diminished resources in education. The Board will continue to support the legislative agenda of the Maryland State Department of Education with particular emphasis on teacher incentives including tuition credits to maintain certification, low interest mortgages, etc. Other education and workforce related initiatives include Career Connections (ensuring students graduate from high school prepared for college and careers); Adult Literacy (only 38,000 of 700,000 adults with inadequate literacy skills are receiving services under current federal (\$7.47 million) and state funding (\$1.25 million); and Rehabilitation Services (enhancing service delivery capacities for individuals with disabilities seeking employment, with special emphasis on transitioning youth).
- ✓ Department of Human Resources (DHR) will convene internal staff to review the possibility of **preparing TANF recipients for careers in health care** and work with a small workgroup of the Board (Eleanor Carey, Toby Gordon, and Carrie Forest) to develop a draft plan. Upon successful completion, the Board will consider expanding the scope to include other critical skill shortage areas.
- ✓ Board member Toby Gordon of Johns Hopkins University (JHU) will take the lead in exploring **viable partnerships with the military** regarding health care personnel exiting the military, and / or potential alliances that leverage existing medical personnel between military and non-military health care needs. JHU will report to the Board on its findings and next-step recommendations, including similar efforts for other shortage areas. Upon successful completion, the Board will consider expanding the scope to include other critical skill shortage areas.
- ✓ The Board will seek partnerships to **explore best practices** within Maryland and across the country for resolving critical skills shortages.
- ✓ The Technology Workforce Task Force will conduct a **strategic planning session** in September 2001 to identify strategic priorities through the end of both FY 2002 as well as FY 2003, in light of the Board’s Action Plan. Discussion items will include but not be limited to: (1) diversifying the IT workforce; (2) measuring the IT workforce and vacancies; (3) developing innovative public-private partnerships; and (4) marketing existing IT workforce programs.

- ✓ The Technology Workforce Task Force will work with the MAITI-MACC initiative to discuss means by which the Task Force and Board can help **ensure full funding for MAITI and the passage and implementation of MAITI-MACC**. One of the Board's top legislative and strategic priorities is full funding of the Maryland Applied Information Technology Initiative (MAITI) and its extension to include the Maryland Association of Community Colleges (MACC). MAITI-MACC would provide the infrastructure necessary for community colleges to maximize their capacity to significantly increase the amount of degrees and certifications awarded for information technology and related careers.
- ✓ Board staff and the Technology Workforce Task Force will help **populate and maintain the IT workforce portal** originally developed by the Department of Business and Economic Development in consultation with the Technology Workforce Task Force. The portal will serve as a central location for job seekers, students, parents, guidance counselors and others to identify job opportunities, explore Maryland's quality of life and training opportunities, and otherwise locate information needed to maximize their IT careers in Maryland.
- ✓ **Revise IT Coordinated Plan** to include program updates and identify new programs since the last report in 1998, so that the coordinated plan serves as a **marketing companion piece to the IT workforce portal**. For example, the new coordinated plan could help showcase scholarship opportunities for students, business tax credits for employers, training programs for those changing careers, etc. However, rather than serving as a catalogue of programs, the new plan would serve as a marketing and public relations document.

#### **Continued from FY 2001**

- ✓ In FY 2001 the Board contracted with RESI of Towson University to develop a **Quarterly Report of Critical Skills Shortages** that projects future skills shortages. The Forecaster Model will **identify current and emerging critical skills shortages within each of Maryland's key workforce sectors**. These sectors will consider the eleven key sectors identified in the Department of Business and Economic Development's strategic plan as well as clusters used by the Maryland State Department of Education and / or the Maryland Higher Education Commission. The first report of the Forecaster Model will be available at the Board's October 2, 2001 meeting.
- ✓ The Board will convene stakeholders through the Chesapeake Workforce Alliance, Statewide Workforce Summit, and other mechanisms to **identify strategies for addressing critical skills shortages in tourism and construction**, the other critical skills shortage areas identified in last year's plan.

- ✓ Board staff will continue to work with UMBC, Anne Arundel Community College, and the Maryland State Department of Education to explore the development of **strategies that provide continuous information technology training to all teachers in Maryland** through a “bricks and clicks, 24 x 7” training program. These strategies will seek U.S. Department of Labor grant funding and may include, but not be limited to: (1) provide teachers continuous information technology training; (2) link every teacher with a private sector mentor or buddy; (3) help each participant integrate technology into their curriculum; and (4) provide every teacher who participates a free laptop computer.
- ✓ Continue to **serve on the Recruitment and Retention Sub-Committee of the Commission on the Crisis in Nursing.**
- ✓ Technology Workforce Task Force’s Diversity Committee will continue efforts to **diversify the IT workforce, particularly for women, minorities, and persons with disabilities.**
- ✓ Continue to support the initiatives endorsed by the Task Force, including the Maryland State Department of Education’s Career Connections initiative to **promote employer-validated skill standards** for the Information Technology workforce, as well as **other initiatives identified in last year’s priorities, including MAITI-MACC.**

## **FY 2002 ACTION ITEMS: LEAVING NO ONE BEHIND**

### **New for FY 2002**

- ✓ Implement the **Skills-Based Training for Employment Promotion (STEP)** legislation passed during the 2001 legislative session. This pilot program will provide training and support services (child care, transportation, etc.) for low-income individuals with dependent children that will lead to higher income and benefits. The legislation requires that the Board, in consultation with the Department of Labor, Licensing, and Regulation, establish and administer the program, which will provide \$1 million in grants on a competitive basis to at least three local workforce investment boards.
- ✓ The **Maryland Department of Aging will prepare a report** that outlines the demographic details of the older worker constituency, identifies ways in which older workers can help fill critical skills shortages, and identifies means by which the Board can help connect older workers with employers experiencing critical skills shortages. Secretary of Aging Sue Ward will present an overview of the report at the Board’s January 2002 meeting.

- ✓ As stated in action items under “addressing critical skills shortages,” the Department of Human Resources will examine the potential of **transitioning**
- ✓ **TANF recipients and other low-income workers into health care careers** and the Diversity Committee of the Technology Workforce Task Force will identify one strategic, achievable, and measurable outcome to **increase the quantity and quality of IT professionals among women, minorities, and persons with disabilities.**

**Continued from FY 2001**

- ✓ The Board will establish and convene a business-led workgroup in order to engage the business community in the state’s **ex-offender pilot initiative.** The workgroup will: (1) help expand business participation in the initiative; (2) assess employer needs and concerns and identify obstacles that can be addressed; (3) facilitate outreach to the business community to expand support; and (4) establish lines of communication between businesses and state services. Board member Cap Mona will lead the workgroup.
- ✓ The Board’s **State Youth Council** will conduct a strategic planning session to identify its objectives and desired outcomes in light of the Board’s Action Plan. In the meantime, a consortium of Youth Council members has applied for a federal grant to **provide youth practitioners training, mentoring, and career paths.**

*“In order to implement change in a complex environment, leaders must create a sense of urgency, communicate a broad vision, and achieve short-term results to build credibility. If all these things are done organizational leadership can build the good will they need to fail at some things and still make progress.”*

*Dr. Freeman Hrabowski  
President, UMBC  
FY 2002 Strategic Planning Session*

## FY 2002 ACTION ITEMS: IMPROVING WORKFORCE INFORMATION

### New for FY 2002

- ✓ **Restructure the Workforce Information Committee (WIC)**, including a sole chair representing the Board's private sector (Norm Wolske), and a co-staff function between the Board and Department of Labor, Licensing, and Regulation. Revise the committee membership to include workforce information experts from partner agencies, as well as other agencies not on the Board such as Planning, Transportation, and Public Safety. A director of a local workforce investment board will also be included in the revised membership.
- ✓ Charge the WIC to **develop and / or identify the information necessary for the Board to implement this FY 2002 Action Plan.**
- ✓ Charge the WIC to perform an **Environmental Scan of available data** from various internal and external workforce system partners; determine "who has what data"; what dollars can be leveraged to produce better data; develop a catalog of various workforce information products; etc.
- ✓ Charge the WIC to **develop and conduct a workforce information customer satisfaction survey** that identifies what information is needed by various stakeholders including local workforce investment areas, and helps to develop a sense of "where the gaps are" in quality workforce information, particularly in helping to answer the questions of state and local Boards.
- ✓ Charge the WIC to **develop a workforce information fact sheet prior to every Board meeting** that synthesizes the most currently available labor market, educational, demographic, and socio-economic data.
- ✓ Work through the WIC to **identify the Board's priorities for cross-agency research** to be considered and conducted by the Maryland Integrated Data System, which is operated by the Department of Labor, Licensing and Regulation.
- ✓ **A representative of the Local Area Directors will present performance measurement data** to the Board's Executive Committee at its November 2001 meeting.

- ✓ Dr. James Tschechtelin will **make known to all community college presidents the labor market information available** from the Department of Labor, Licensing, and Regulation at their August 2001 meeting.

#### **Continued from FY 2001**

- ✓ Continue to work with RESI to **develop quarterly reports of critical skills shortages** and make reports available to the Board (see “addressing critical skills shortages.”)
- ✓ The Workforce Information Committee will develop or identify data and information that serve to help **populate the Board’s system measures** where no data are currently available.
- ✓ Continue to **leverage important and informative web sites** that should be linked to and from the Board as it aims to meet last year’s goal of a **“centralized workforce web repository with links.”** Included here is the continued improvement of the Board’s own web page. The IT workforce portal, described under “addressing critical skills shortages” is an example of partnerships and leveraging resources that can be replicated for other workforce priorities and challenge areas.

## **FY 2002 ACTION ITEMS: COMMUNICATIONS AND MARKETING**

#### **New for FY 2002**

- ✓ The Board will contract with a professional consultant to **assess current marketing and communication efforts** of state and local partners, including the identification of sample products. The purpose of this effort will be to compliment and maximize the existing workforce-related marketing efforts of state and local partners. Following a series of interviews and a stakeholder workshop, the consultant will **submit a draft “marketing and communications plan”** to the Board’s Executive Committee for consideration and deliberation. Interviews with various partners will begin in early August 2001.
- ✓ Board Chairman Wayne Mills will **convene a “Chairman’s Roundtable”** on an annual basis to include the chairs and directors of the state’s twelve local workforce investment areas. This year, the focus will be on ways to align state and local strategies in helping to achieve the Board’s Action Plan and any local action or strategic plans, and discussion of a jointly sponsored statewide workforce summit.



- ✓ **Each of the Board's Committees will submit a FY 2002 Action Plan** that identifies strategic priorities and aligns with the Board's Action Plan. Committees covered under this item are: (1) Technology Workforce Task Force; (2) State Youth Council; (3) Legislative Committee; (4) Workforce Information Committee; (5) Performance Measures Committee; and (6) Sub-Cabinet. Board Staff will develop a template for each committee Action Plan to follow.
- ✓ The Board has **submitted a budget request of \$75,000 for a comprehensive marketing plan** to highlight the workforce services and quality of life amenities offered by Maryland. If provided, the \$75,000 will be used to implement the plan identified by the consultant and approved by the Executive Committee.

#### **Continued from FY 2001**

- ✓ Board will expand the focus of its "Workforce Conference" from a marketing and strategic partnership initiative to more of a working dialogue, i.e. more of a **"Workforce Summit"** that will include all workforce investment board members and business associations from across the state, as well as state and local partners. The Chairman's Roundtable is seen as a vehicle for creating such a summit.
- ✓ Board staff will finalize the development of the **new Board web page** including improved links, chat rooms and bulletin boards to help improve Board and committee communication, and interactive survey capability for business surveys.

*"Workforce is the key to economic development in the 21<sup>st</sup> Century. We need to remember that the workforce system is not just for those that are most at-risk, but also for those who need lifelong learning to secure and maintain their position in the new economy."*

*Kathleen Kennedy Townsend  
Lt. Governor, State of Maryland  
FY 2002 Strategic Planning Session*

## **APPENDIX A: ABOUT THE GOVERNOR'S WORKFORCE INVESTMENT BOARD**

The Governor's Workforce Investment Board, first created in 1983, is the State's chief policy-making body on workforce development. The Governor appoints its forty members, who represent the business community, General Assembly, key State agencies, education, organized labor, and community-based organizations. The Board meets four times a year, as does its Executive Committee. The Board and its staff function as an independent agency reporting to the Governor and Lt. Governor.

The Governor and Lt. Governor have charged the Board with taking the leadership role in building a world-class workforce that will drive the State's economy. The Board's overall mission is to close the skills gaps, increase economic growth, and meet the 21<sup>st</sup> century workforce needs of employers and job seekers. Simply put, the Board's role is to advocate strategies and oversee an accountability system that will assure that graduates of schools and colleges and graduates of training programs in Maryland have the education and skill sets employers need, now and in the future.

As required by the 1998 Workforce Investment Act, the Board's chairman and 51% of its membership are from the private sector. This private sector majority works with the Cabinet Secretaries of six State agencies (Department of Labor, Licensing, and Regulation; Department of Business and Economic Development; State Department of Education; Higher Education Commission; Department of Human Resources; and Department of Aging) along with other stakeholders to ensure that the needs of employers are clearly and directly communicated to key policy makers.

More information about the Board, and its members, partners, and priorities can be found at our web site at [www.gwib.state.md.us](http://www.gwib.state.md.us).

# **APPENDIX B:**

## **ECONOMIC CONSEQUENCES OF CRITICAL SKILL SHORTAGES**

Prepared by: RESI, Research & Consulting, May 2001

### **I. Introduction**

#### **A. Problem Statement / Purpose of Analysis**

The Governor's Workforce Investment Board, (GWIB), contracted with RESI to evaluate the economic impact of existing job vacancies in Maryland. Specifically, the objective of the analysis is to estimate the total economic losses generated by current vacancies in state and local economies across three occupations: nurses, teachers and information technology workers. While RESI would have liked to expand this analysis to include other industries such as construction trades and tourism related sectors, average wage data as well as shortage data for these industries are highly speculative.

### **II. Overview**

It is now well established that a number of key industries face worsening labor shortages in Maryland. Occupations such as nursing, teaching, computer programming, construction trades, machinists and in certain instances even retail sales persons are currently affected. These labor shortages have led to wage pressures on employers in recent years. Though this makes operations more difficult for businesses, from a strictly economic point of view the additional salary represents a mere transfer between employer and employee and not necessarily a net loss to the overall economy.

But these unfilled jobs do much more than create upward pressure on wages. For each unfilled job, there is a loss in accompanying purchasing power and related job creation. This does represent a net loss to the state's economy. Consequently, endowing people with suitable skills to fill these currently vacant jobs serves two purposes. First, it allows employers to better fulfill their role in the market place. Second, filling vacant positions also creates new income for the would-be employee, who in turn generates additional economic impacts within state and local economies.

### III. Methodology & Results

#### Calculating Impacts of a Single Unfilled Job

In order to calculate the total impact of existing vacancies, RESI first endeavored to measure the loss in economic impact associated with one unfilled job in each of the three occupations under consideration. The total impact represents jobs, income, output and tax receipts that state and local economies would receive for each filled position.

In order to quantify the economic impact of a single job in each of the three occupations considered, RESI utilized a modified IMPLAN (IMPact Analysis for PLANing) input/output model. The IMPLAN model enumerates the employment and income impact of each dollar earned and spent by the following: a single employee in a given occupation, other supporting vendors (business services, retail, etc.), each dollar spent by these vendors on other firms and each dollar spent by the households of the employee, other vendors' employees, and other businesses' employees.

To quantify the economic impact of a business, economists measure three types of economic impacts: direct, indirect, and induced impacts. The direct economic effects are generated as a new business creates jobs and hires workers to fill new positions. The indirect economic impacts occur as new firms purchase goods and services from other firms. In either case the increases in employment generate an increase in household income, as new job opportunities are created and income levels rise. This drives the induced economic impacts that result from households increasing their purchases at local businesses. The same spin-off growth occurs in the generation of personal income, fiscal and gross state product impacts.

Consider the following example. A new firm opens in a region and directly employs 100 workers. The firm purchases supplies, both from outside the region as well as from local suppliers, which leads to increased business for local firms, thereby creating jobs for say, another 100 workers. This is called the indirect effect. The workers at the firm and at suppliers spend their income mostly in the local area, creating jobs for hypothetically another 50 workers. This is the induced effect. The direct, indirect, and induced effects add up to 250 jobs created from the original 100 jobs. Thus, in terms of employment, the total economic impact of the hypothetical firm in our example is 250.

RESI's results from the IMPLAN model are presented below.

#### *Employment*

According to the results, a single nursing position generates a total of 1.4 jobs in Maryland's economy in a single year. A single teaching position generates a total

## Economic Consequences of Critical Skills Shortages

of 1.5 jobs in the state's economy and a single information technology worker generates a total of 2.5 jobs in the overall economy.

<b>Employment</b>				
	Direct	Indirect	Induced	Total
<b>Nurse</b>	1	0.1	0.2	1.4
<b>Teacher</b>	1	0.3	0.2	1.5
<b>IT Worker</b>	1	0.7	0.8	2.5

### **Income**

The IMPLAN model estimates the flow of personal income in a single year, (defined as the sum of salaries and wages, other labor income and proprietors' income less transfer payments, dividends, interest and rent), for a single information technology position to be \$107,748. The corresponding figures for a single nursing and teaching position are \$52,568 and \$58,396 respectively.

<b>Wages</b>				
	Direct	Indirect	Induced	Total
<b>Nurse</b>	\$36,924	\$5,981	\$9,663	\$52,568
<b>Teacher</b>	\$33,398	\$14,245	\$10,752	\$58,396
<b>IT Worker</b>	\$51,622	\$30,188	\$25,938	\$107,748

### **Output**

The annual Gross State Product output, the total gross value of goods and services attributable to a single information technology position, is \$343,896. A single nursing position generates \$113,792, while a single teaching position generates \$143,687.

<b>Output</b>				
	Direct	Indirect	Induced	Total
<b>Nurse</b>	\$67,428	\$18,315	\$28,050	\$113,792
<b>Teacher</b>	\$74,859	\$37,618	\$31,210	\$143,687
<b>IT Worker</b>	\$184,996	\$83,601	\$75,300	\$343,896

### **Taxes**

Based upon the estimates generated by RESI's modified IMPLAN model, a single nursing position will generate and support \$5,573 dollars in tax receipts at the

## Economic Consequences of Critical Skills Shortages

local/state level. The corresponding figures for a single teaching and information technology position are \$5,642 and \$16,761 respectively.

<b><i>Taxes</i></b>	
	Local/State
<b><i>Nurse</i></b>	\$5,573
<b><i>Teacher</i></b>	\$5,642
<b><i>IT Worker</i></b>	\$16,761

### Calculating Impacts of Total Vacancies

The next step of the analysis involved applying the impacts associated with a single position to state vacancy estimates for each of the three occupations considered. Current estimates of shortages are difficult to come by, but when considering nursing shortages, RESI relied upon the Maryland Hospital Association's 2000 Personnel Survey, which estimates total nursing vacancies within the state's hospitals to be 1,629. This figure is admittedly conservative, as it does not include nursing vacancies among nursing homes and alternative health care facilities.

The Maryland Teaching Staff Report 2000-2002 projects that 8,710 **certified** teachers were needed across the state for the 2000-2001 school year. The same report estimates that a total of 8,159 would be hired over the same period, resulting in a shortage of 551 certified teachers for the 2000-2001 school year. The corresponding projections for the 2001-2002 school year are 10,351 and 8,742, resulting in a shortage of 1,609. For the purposes of this analysis, RESI considered the current certified teacher shortages to be the sum of these two years, (e.g., 2,160).

Information with respect to high-tech labor shortages remains remarkably scant in Maryland and nationally. In 1998, RESI estimated that the high-tech worker shortage (shortage comprised largely of software developers/programmers and systems integrators) was 12,000 at mid-year. By mid-year 1999, this estimate had risen to 18,000 and at its peak RESI estimates that the technology worker shortage in Maryland approached 25,000. RESI utilized the 25,000 figures for the purposes of this analysis.

The total impacts of vacancies across these three industries are presented below.

### ***Employment***

According to the results, the total employment impact of existing nursing vacancies in Maryland is 2,258 jobs. The corresponding figures for teachers and information technology workers are 3,272 and 61,500.

## Economic Consequences of Critical Skills Shortages

<b>Employment</b>				
	Direct	Indirect	Induced	Total
<b>Nurses</b>	1,629	233	396	2,258
<b>Teachers</b>	2,160	579	534	3,272
<b>IT Workers</b>	25,000	16,750	19,750	61,500
<b>Total</b>	<b>28,789</b>	<b>17,562</b>	<b>20,679</b>	<b>67,030</b>

### *Income*

The IMPLAN model estimates the total personal income impacts for existing information technology workers in Maryland to approach \$2.7 billion. The corresponding figures for nursing and teaching vacancies are \$85.6 and \$126.1 million respectively.

<b>Wages</b>				
	Direct	Indirect	Induced	Total
<b>Nurses</b>	\$ 60,149,196	\$ 9,743,049	\$ 15,741,027	\$ 85,633,272
<b>Teachers</b>	\$ 72,139,680	\$ 30,769,200	\$ 23,224,320	\$ 126,135,360
<b>IT Workers</b>	\$1,290,550,000	\$ 754,700,000	\$ 648,450,000	\$2,693,700,000
<b>Total</b>	<b>\$1,422,838,876</b>	<b>\$ 795,212,249</b>	<b>\$ 687,415,347</b>	<b>\$2,905,468,632</b>

### *Output*

In terms of annual Gross State Product output, teaching vacancies generate an impact of \$310.4 million. The corresponding figures for nurses and information technology workers are \$185.4 million and \$8.6 billion respectively.

<b>Output</b>				
	Direct	Indirect	Induced	Total
<b>Nurses</b>	\$ 109,840,212	\$ 29,835,135	\$ 45,693,450	\$ 185,367,168
<b>Teachers</b>	\$ 161,695,440	\$ 81,254,880	\$ 67,413,600	\$ 310,363,920
<b>IT Workers</b>	\$4,624,900,000	\$2,090,025,000	\$1,882,500,000	\$8,597,400,000
<b>Total</b>	<b>\$4,896,435,652</b>	<b>\$2,201,115,015</b>	<b>\$1,995,607,050</b>	<b>\$9,093,131,088</b>

### *Taxes*

Based upon the estimates generated by RESI's modified IMPLAN model, vacant nursing positions in Maryland would have generated roughly \$9 million dollars in tax receipts at the local/state level. The corresponding figures for a teaching and information technology vacancies are \$12 and \$419 million.

## Economic Consequences of Critical Skills Shortages

<i><b>Taxes</b></i>	
	Local/State
<i><b>Nurses</b></i>	\$ 9,078,417
<i><b>Teachers</b></i>	\$ 12,186,720
<i><b>IT</b></i>	
<i><b>Workers</b></i>	\$ 419,025,000
<i><b>Total</b></i>	<i><b>\$ 440,290,137</b></i>

### IV. Conclusion

The RESI/IMPLAN results reveal the magnitude of the effects of current shortages on local and state economies and, in so doing, emphasize the state's ongoing critical need for training programs and initiatives to combat current and future shortages. If all currently vacant positions across these industries were filled, an additional 67,000 workers would be employed, roughly \$440 million in local and state taxes would be produced, and an additional \$2.9 billion in annual labor income and \$9.1 billion in Gross Domestic Product would be generated.



## **Economic Consequences of Critical Skills Shortages**

### **APPENDIX C: Personal Commitments and Responsibilities (Alphabetical)**

#### **Carey, Eleanor**

- ✓ Meet with the Lt. Governor and leadership of the Maryland Association of Community Colleges (MACC) regarding draft MACC recommendations that address the Board's five critical skills shortage areas.
- ✓ Participate in small workgroup (with C.Forrest, T.Gordon) to review recommendations from E.Johnson/DHR regarding the transition of TANF recipients into careers in health care.
- ✓ Identify best practices and workforce information available from the Commission on the Crisis in Nursing.

#### **Cricchio, Mary Ann**

- ✓ Participate on small workgroup to recommend a flexible approach to address critical skills shortages.

#### **Forrest, Carrie**

- ✓ Participate in small workgroup (with E.Carey, T.Gordon) to review recommendations from E.Johnson/DHR regarding the transition of TANF recipients into careers in health care.

#### **Gordon, Dr. Toby**

- ✓ Participate in small workgroup (with E.Carey, T.Gordon) to review recommendations from E.Johnson/DHR regarding the transition of TANF recipients into careers in health care.
- ✓ Explore viable partnerships with the military, through Johns Hopkins University, regarding health care personnel exiting the military and / or potential alliances that leverage existing medical personnel between military and non-military health care needs. Report to the Board on findings and recommendations.

#### **Grasmick, Dr. Nancy**

- ✓ Work with Board staff to develop an "Workforce Legislative Agenda in Education."

#### **Johnson, Emelda**

- ✓ Convene internal staff from the Department of Human Resources to review the possibility of preparing TANF recipients for careers in health care, and work with a small workgroup (E.Carey, C.Forrest, T.Gordon) to develop a draft plan.

#### **Johnson, Karen**

- ✓ Keep the Board informed of the Maryland Higher Education's review of student financial aid and scholarship programs.

## **Economic Consequences of Critical Skills Shortages**

### **Mills, Wayne**

- ✓ Convene Chairman's Roundtable with Local Workforce Board Chairs and Directors.
- ✓ Request that Local Workforce Investment Areas help identify training needs.

### **O'Connor, John**

- ✓ On behalf of Ellen Miller of the Department of Labor, Licensing, and Regulation, Chair of the Board's Sub-Cabinet Committee, submit a Sub-Cabinet Action Plan that aligns with the Board's Action Plan.

### **Pines, Marion**

- ✓ Submit a State Youth Council Action Plan that aligns with the Board's Action Plan.

### **Porter, John**

- ✓ Submit a Technology Workforce Task Force Action Plan that aligns with the Board's Action Plan.

### **Smith, Dr. Martha**

- ✓ Participate on small workgroup to recommend a flexible approach to address critical skills shortages.

### **Struever, Bill**

- ✓ Participate on small workgroup to recommend a flexible approach to address critical skills shortages.

### **Ward, Sue**

- ✓ Prepare and present at the January 2002 Board meeting a report that outlines the demographics of the older worker constituency, identifies ways in which older workers can help fill critical skills shortages, and identifies means by which the Board can help connect older workers with employers experiencing critical skills shortages.

### **Wolske, Norm**

- ✓ Assume the Chairmanship of a restructured Workforce Information Committee and ensure the four charges are met, including: (1) conducting an environmental scan of workforce information; (2) conducting a workforce information customer satisfaction survey; (3) developing a workforce information fact sheet prior to every Board meeting; and (4) developing a committee action plan that aligns with the Board's Action Plan.